IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF   Art Unit: 1635

LIAU ET AL.

APPLICATION NO: 10/619,344

FILED: 07/14/2003

FOR: INDUCTION OF BLOOD VESSEL FORMATION
      THROUGH ADMINISTRATION OF POLYNUCLEOTIDES
      ENCODING SPHINGOSINE KINASES

MS: Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

RESPONSE TO RESTRICTION REQUIREMENT

Sir:

In response to the Restriction Requirement mailed October 3, 2007, Applicants respectfully submit the following election and remarks.

Applicants elect the following species, in response to Examiner assertion that the new claims contain patentably distinct species:

- Myocardial ischemia (e.g., in claim 57);
- Human SPHK1 (e.g., in claim 64); and
- AF200328 (e.g., in claim 65).

This election is made with traverse. In spite of the Examiner's statements to the contrary, Applicants are of the belief that searching the species of the present claim set together would not constitute an undue burden. For one, the SPHK various sequences share a high degree of sequence similarity and identity, which would make searching them together easy. They contain shared domains and other areas of sequence conservation, and in the case of human SPHK1 and SPHK2, they are at least 58% identical (over 66% similar) over 200 residues. [See the enclosed alignment.] Searching for human SPHK1 in the literature,

whether querying by sequence or word drivers, would reveal human SPHK2, as well as SPHKs of other species. To exclude the non-elected SPHKs from the present claims would be tantamount to discarding search results which the Examiner already has in hand. This argument applies to both the election of a SPHK species and the GenBank accession number species.

Similarly, searching for angiogenic conditions will likely reveal coronary artery congestive heart failure, myocardial ischemia, reperfusion injury, and peripheral arterial disease, all of which are cardiovascular conditions relating to angiogenesis. A search by the Examiner for SPHKs in the context of angiogenic conditions would not necessarily be more likely to reveal any one of these conditions than any other. Therefore, the Examiner will likely conduct the same search irrespective of the chosen species election, and will discard whatever results are in hand but inapposite to those unelected species. This does not spare the Examiner of a burdensome search, and leads to an unnecessary vetting of potentially valuable results.
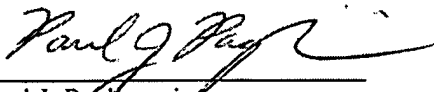
Applicants submit a petition for Five Months Extension of Time herewith, and believe that no additional fees are due with this filing. However, if it is deemed that additional fees are required, the Commissioner is authorized to charge Deposit Account No. 50-4409 in the name of Novartis for any fees due.

Applicants reserve the right to pursue non-elected subject matter in one or more divisional applications.

An early and favorable action on the merits is respectfully requested.

Respectfully submitted,

Novartis
Corporate Intellectual Property
One Health Plaza, Building 104
East Hanover, NJ 07936-1080
(617) 871-3343
Date: April 3, 2008

Paul J. Paglierani
Attorney for Applicants
Reg. No. 52,498

Local

BESTFIT of: 120723723367315800.gcg   check: 8271   from: 1   to: 384

SPHK1

  to: 120723723375282400.gcg   check: 8096   from: 1   to: 618

SPHK2

Symbol comparison table:
/bioinfnv/software/gcg/gcg_10_3/gcgcore/data/rundata/blosum62.cmp
CompCheck: 1102

       Gap Weight: 50   Average Match: 2.778
    Length Weight: 3 Average Mismatch: -2.248

         Quality: 637   Length: 205
          Ratio: 3.107   Gaps: 0
Percent Similarity: 66.829 Percent Identity: 58.049

      Match display thresholds for the alignment(s):
              | = IDENTITY
              : =   2
              . =   1

120723723367315800.gcg x 120723723375282400.gcg April 3, 2008 17:40 ..

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 10 VLPRPCRVLVLLNPRGGKGKALQLFRSHVQPLLAEAEISFTLMLTERRNH 59
    .|||| |.|.|.|| ||:| | |  :.|| |::.|| :|| |. |||.||
140 LLPRPPRLLLLVNPFGGRGLAWQWCKNHVLPMISEAGLSFNLIQTERQNH 189

 60 ARELVRSEELGRWDALVVMSGDGLMHEVVNGLMERPDWETAIQKPLCSLP 109
    |||||.   |  || :| .|||||:|||.|||::||||| |:. |.  ||
190 ARELVQGLSLSEWDGIVTVSGDGLLHEVLNGLLDRPDWEEAVKMPVGILP 239

110 AGSGNALAASLNHYAGYEQVTNEDLLTNCTLLLCRRLLSPMNLLSLHTAS 159
    |||||||| ..| : |:|     ||| ||.||||| |:.|||. ||
240 CGSGNALAGAVNQHGGFEPALGLDLLLNCSLLLCRGGGHPLDLLSVTLAS 289

160 GLRLFSVLSLAWGFIADVDLESEKYRRLGEMRFTLGTFLRLAALRTYRGR 209
    | | || ||.||||:.|||::||::| || ||||||| | || | |||||
290 GSRCFSFLSVAWGFVSDVDIQSERFRALGSARFTLGTVLGLATLHTYRGR 339

210 LAYLP 214
    |.|||
340 LSYLP 344
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